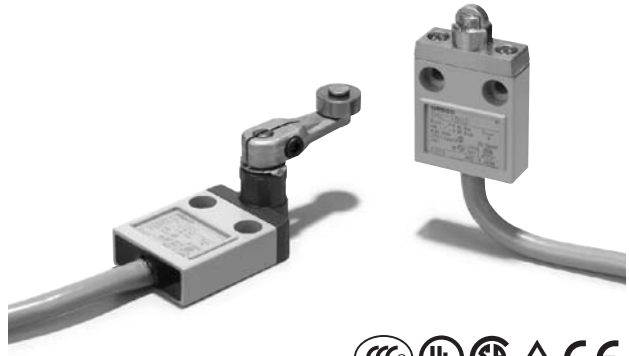
Enclosed Switch
D4C

Sealed, Compact, and Slim-bodied Switch Offers Choice of Many Actuators

- Liquid- and dust-resistance conforms to IEC IP67 standard.
- Triple-sealed construction:
  Plunger section sealed via nitrile rubber packing seal and diaphragm; switch section sealed via nitrile rubber cap; cable entrance sealed via encapsulating material.
- Standard cable (S-FLEX VCTF) in 3- or 5-meter lengths offers high flexibility with outstanding oil and extreme temperature resistance.
- Low temperature models are available.
- Approved by EN, UL, CSA, and CCC (Chinese standard).



Model Number Structure

■ Model Number Legend

Standard Models

D4C-□□□
1 2 3

1. Rated Current
- 1: 5 A at 250 VAC, 4 A at 30 VDC
- 2: 5 A at 125 VAC (with LED indicator)
- 3: 4 A 30 VDC (with LED indicator)
- 4: 0.1 A at 125 VAC, 0.1 A at 30 VDC
- 5: 0.1 A at 125 VAC (with LED indicator)
- 6: 0.1 A at 30 VDC (with LED indicator)

2. Cable Specifications
- 2: VCTF oil-resistant cable (3 m)
- 3: VCTF oil-resistant cable (5 m)
- 4: VCTF (3 m)
- 5: VCTF (5 m)
- 6: SJT(O) (3 m)
- 7: SJT(O) (5 m)

3. Actuator
- 01: Pin plunger
- 02: Roller plunger
- 03: Crossroller plunger
- 10: Bevel plunger
- 20: Roller lever
- 24: Roller lever (high-sensitivity model)
- 31: Sealed pin plunger
- 32: Sealed roller plunger
- 33: Sealed crossroller
- 41: Panel mount pin plunger
- 42: Panel mount roller plunger
- 43: Panel mount crossroller plunger
- 50: Plastic rod
- 60: Center roller lever

Note 1: Some combinations of the above may not be supported.

2. With standard models, the operation indicator turns OFF when the switch operates. If models with operation indicators that turn ON when the switch operates are required, add "-B" to the end of the model number.

Pre-wired Models (Use VCTF Oil-resistant Cable)

D4C-□0□□-□□□□□□
1 2 3 4

1. Operation Indicator Lamp
- 1: 1 A at 125 VAC, 1 A at 30 VDC (Without operation indicator)
- 2: 1 A at 125 VAC (with operation indicator)
- 3: 1 A at 30 VDC (with operation indicator)

2. Actuator
- 01: Pin plunger
- 02: Roller plunger
- 31: Sealed plunger
- 32: Sealed roller plunger
- 24: Roller lever (high-sensitivity model)

3. Wiring Specifications
- DK1EJ: Pre-wired models (3 conductors: DC specification, NC wiring)
- AK1EJ: Pre-wired models (3 conductors: AC specification, NC wiring)
- M1J: Connector models for ASI devices (2 conductors: NO wiring)

4. Cable length
- 03: 0.3 m

Wiring Specifications

Internal switch	Connector
COM	3
NC	2
NO	4

Note: Since the above wiring specifications are different from those for the D4CC, be careful not to mistake them.

Weather-resistant Models

D4C-□□□-P
1 2 3

1. Rated Current
- 1: 5 A at 250 VAC, 4 A at 30 VDC
- 2: 5 A at 125 VAC (with LED indicator)
- 3: 4 A at 30 VDC (with LED indicator)
- 4: 0.1 A at 125 VAC, 0.1 A at 30 VDC

2. Cable Specifications
- 2: VCTF oil-resistant cable (3 m)
- 3: VCTF oil-resistant cable (5 m)

3. Actuator
- 20: Roller lever
- 24: Roller lever (high-sensitivity model)
- 27: Variable roller lever
- 29: Variable rod lever

Ordering Information

■ List of Models

Standard Models

Switches with No Operation Indicator

Actuator	Ratings: Cable length (m)	Standard: 250 VAC, 5 A; 30 VDC 4 A — VCTF oil-resistance cable (See note 1.)	Standard: 250 VAC, 5 A; 30 VDC 4 A — VCTF cable (See note 2.)	Standard: 250 VAC, 5 A; 30 VDC 4 A — SJT(O) cable (See note 3.)	Micro-load: 125 VAC, 0.1 A; 30 VDC 0.1 A — VCTF oil-resistance cable (See note 1.)	Micro-load: 125 VAC, 0.1 A; 30 VDC 0.1 A — VCTF cable (See note 2.)
Pin plunger	3	D4C-1201	D4C-1401	D4C-1601	D4C-4201	D4C-4401
	5	D4C-1301	D4C-1501	D4C-1701	D4C-4301	D4C-4501
Roller plunger	3	D4C-1202	D4C-1402	D4C-1602	D4C-4202	D4C-4402
	5	D4C-1302	D4C-1502	D4C-1702	D4C-4302	D4C-4502
Crossroller plunger	3	D4C-1203	D4C-1403	D4C-1603	D4C-4203	D4C-4403
	5	D4C-1303	D4C-1503	D4C-1703	D4C-4303	D4C-4503
Bevel plunger	3	D4C-1210	D4C-1410	D4C-1610	D4C-4210	D4C-4410
	5	D4C-1310	D4C-1510	D4C-1710	D4C-4310	D4C-4510
Roller lever	3	D4C-1220	D4C-1420	D4C-1620	D4C-4220	D4C-4420
	5	D4C-1320	D4C-1520	D4C-1720	D4C-4320	D4C-4520
Roller lever, high-sensitivity	3	D4C-1224	D4C-1424	D4C-1624	D4C-4224	D4C-4424
	5	D4C-1324	D4C-1524	D4C-1724	D4C-4324	D4C-4524
Sealed pin plunger	3	D4C-1231	D4C-1431	D4C-1631	D4C-4231	D4C-4431
	5	D4C-1331	D4C-1531	D4C-1731	D4C-4331	D4C-4531
Sealed roller plunger	3	D4C-1232	D4C-1432	D4C-1632	D4C-4232	D4C-4432
	5	D4C-1332	D4C-1532	D4C-1732	D4C-4332	D4C-4532
Sealed crossroller plunger	3	D4C-1233	D4C-1433	D4C-1633	D4C-4233	D4C-4433
	5	D4C-1333	D4C-1533	D4C-1733	D4C-4333	D4C-4533
Panel mount pin plunger	3	D4C-1241	D4C-1441	D4C-1641	D4C-4241	D4C-4441
	5	D4C-1341	D4C-1541	D4C-1741	D4C-4341	D4C-4541
Panel mount roller plunger	3	D4C-1242	D4C-1442	---	D4C-4242	D4C-4442
	5	D4C-1342	D4C-1542	D4C-1742	D4C-4342	D4C-4542
Panel mount crossroller plunger	3	D4C-1243	D4C-1443	D4C-1643	D4C-4243	D4C-4443
	5	D4C-1343	D4C-1543	D4C-1743	D4C-4343	D4C-4543
Plastic rod	3	D4C-1250	D4C-1450	D4C-1650	D4C-4250	D4C-4450
	5	D4C-1350	D4C-1550	D4C-1750	D4C-4350	D4C-4550
Center roller lever	3	D4C-1260	D4C-1460	D4C-1660	D4C-4260	D4C-4460
	5	D4C-1360	D4C-1560	D4C-1760	D4C-4360	D4C-4560

Note 1. Oil-resistant vinyl cabtire cables; approved by EN and IEC.

2. Ordinary vinyl cabtire cables.

3. Switches with SJT(O) Cables (cables approved by UL and CSA) are approved by CSA.

4. Switches with variable roller levers are also available. Ask your nearest OMRON representative for details.

Standard Switches with Operation Indicator (Red)

Actuator	Ratings: Cable length (m)	125 VAC, 0.1 A: VCTF oil-resistance cable (See note 1.)	125 VAC, 0.1 A: VCTF cable (See note 2.)	125 VAC, 0.1 A: SJT(O) cable (See note 3.)	30 VDC 0.1 A: VCTF oil-resistance cable (See note 1.)	30 VDC 0.1 A: VCTF cable (See note 2.)
Pin plunger 	3	D4C-2201	D4C-2401	---	D4C-3201	D4C-3401
	5	D4C-2301	D4C-2501	D4C-2701	D4C-3301	D4C-3501
Roller plunger 	3	D4C-2202	D4C-2402	D4C-2602	D4C-3202	D4C-3402
	5	D4C-2302	D4C-2502	D4C-2702	D4C-3302	D4C-3502
Crossroller plunger 	3	D4C-2203	D4C-2403	D4C-2603	D4C-3203	D4C-3403
	5	D4C-2303	D4C-2503	D4C-2703	D4C-3303	D4C-3503
Bevel plunger 	3	D4C-2210	D4C-2410	D4C-2610	D4C-3210	D4C-3410
	5	D4C-2310	---	D4C-2710	D4C-3310	D4C-3510
Roller lever 	3	D4C-2220	D4C-2420	D4C-2620	D4C-3220	D4C-3420
	5	D4C-2320	D4C-2520	D4C-2720	D4C-3320	D4C-3520
Roller lever, high-sensitivity 	3	D4C-2224	D4C-2424	---	D4C-3224	D4C-3424
	5	D4C-2324	D4C-2524	---	D4C-3324	D4C-3524
Sealed pin plunger 	3	D4C-2231	D4C-2431	D4C-2631	D4C-3231	D4C-3431
	5	D4C-2331	D4C-2531	D4C-2731	D4C-3331	D4C-3531
Sealed roller plunger 	3	D4C-2232	D4C-2432	D4C-2632	D4C-3232	D4C-3432
	5	D4C-2332	D4C-2532	D4C-2732	D4C-3332	D4C-3532
Sealed crossroller plunger 	3	D4C-2233	D4C-2433	D4C-2633	D4C-3233	D4C-3433
	5	D4C-2333	D4C-2533	D4C-2733	D4C-3333	D4C-3533
Panel mount pin plunger 	3	D4C-2241	D4C-2441	---	D4C-3241	D4C-3441
	5	D4C-2341	D4C-2541	D4C-2741	D4C-3341	D4C-3541
Panel mount roller plunger 	3	D4C-2242	D4C-2442	D4C-2642	D4C-3242	D4C-3442
	5	D4C-2342	D4C-2542	D4C-2742	D4C-3342	D4C-3542
Panel mount crossroller plunger 	3	D4C-2243	D4C-2443	D4C-2643	D4C-3243	D4C-3443
	5	D4C-2343	---	D4C-2743	D4C-3343	D4C-3543
Plastic rod 	3	D4C-2250	D4C-2450	D4C-2650	D4C-3250	D4C-3450
	5	D4C-2350	D4C-2550	D4C-2750	D4C-3350	D4C-3550
Center roller lever 	3	D4C-2260	D4C-2460	D4C-2660	D4C-3260	D4C-3460
	5	D4C-2360	D4C-2560	D4C-2760	D4C-3360	D4C-3560

Note 1. Oil-resistant vinyl cabtire cables; approved by EN and IEC.

2. Ordinary vinyl cabtire cables.

3. Switches with SJT(O) Cables (cables approved by UL and CSA) are approved by CSA.

4. Ask your nearest OMRON representative for information on Switching with approved international standards.

Micro-load Switches with Operation Indicator

Actuator	Ratings: Cable length (m)	125 VAC, 0.1 A: VCTF oil-resistance cable (See note 1.)	30 VDC 0.1 A: VCTF oil-resistance cable (See note 1.)
Pin plunger 	3	D4C-5201	D4C-6201
	5	D4C-5301	D4C-6301
Roller plunger 	3	D4C-5202	D4C-6202
	5	D4C-5302	D4C-6302
Crossroller plunger 	3	D4C-5203	D4C-6203
	5	D4C-5303	D4C-6303
Bevel plunger 	3	D4C-5210	D4C-6210
	5	D4C-5310	D4C-6310
Roller lever 	3	D4C-5220	D4C-6220
	5	D4C-5320	D4C-6320
Roller lever, high-sensitivity 	3	D4C-5224	D4C-6224
	5	D4C-5324	D4C-6324
Sealed pin plunger 	3	D4C-5231	D4C-6231
	5	D4C-5331	D4C-6331
Sealed roller plunger 	3	D4C-5232	D4C-6232
	5	D4C-5332	D4C-6332
Sealed crossroller plunger 	3	D4C-5233	D4C-6233
	5	D4C-5333	D4C-6333
Panel mount pin plunger 	3	D4C-5241	D4C-6241
	5	D4C-5341	D4C-6341
Panel mount roller plunger 	3	D4C-5242	D4C-6242
	5	D4C-5342	---
Panel mount crossroller plunger 	3	D4C-5243	D4C-6243
	5	---	D4C-6343
Plastic rod 	3	D4C-5250	D4C-6250
	5	D4C-5350	D4C-6350

Note 1. Oil-resistant vinyl cabtire cables; approved by EN and IEC.

2. Ask your nearest OMRON representative for information on Switching with approved international standards.

Standard Models (Continued)

Actuator	CENELEC cable models	
	EN60947-5-1 approved	
	1 m	2 m
Pin plunger 	D4C-1G01 1 M	D4C-1G01 2 M
Sealed plunger 	D4C-1G31 1 M	D4C-1G31 2 M
Roller plunger 	D4C-1G02 1 M	D4C-1G02 2 M
Sealed roller plunger 	D4C-1G32 1 M	D4C-1G32 2 M
Crossroller plunger 	D4C-1G03 1 M	D4C-1G03 2 M
Sealed crossroller plunger 	D4C-1G33 1 M	D4C-1G33 2 M
Bevel plunger 	D4C-1G10 1 M	D4C-1G10 2 M
Coil spring 	D4C-1G50 1 M	D4C-1G50 2 M
Roller lever 	D4C-1G20 1M	D4C-1G20 2 M
Roller lever (high-sensitivity model) 	D4C-1G24 1 M	D4C-1G24 2 M
Panel mount pin plunger 	D4C-1G41 1 M	D4C-1G41 2 M
Panel mount roller plunger 	D4C-1G42 1 M	D4C-1G42 2 M
Panel mount crossroller plunger 	D4C-1G43 1 M	D4C-1G43 2 M

Pre-wired Models (Use VCTF Oil-resistant Cable)

Actuator	1 A at 125 VAC without operation indicator	1 A at 125 VAC with operation indicator	1 A at 30 VDC without operation indicator	1 A at 30 VDC with operation indicator
Pin plunger 	D4C-1001-AK1EJ□	D4C-2001-AK1EJ□	D4C-1001-DK1EJ□	D4C-3001-DK1EJ□
Roller plunger 	D4C-1002-AK1EJ□	D4C-2002-AK1EJ□	D4C-1002-DK1EJ□	D4C-3002-DK1EJ□
Sealed plunger 	D4C-1031-AK1EJ□	D4C-2031-AK1EJ□	D4C-1031-DK1EJ□	D4C-3031-DK1EJ□
Sealed roller plunger 	D4C-1032-AK1EJ□	D4C-2032-AK1EJ□	D4C-1032-DK1EJ□	D4C-3032-DK1EJ□
Roller lever (high-sensitivity model) 	D4C-1024-AK1EJ□	D4C-2024-AK1EJ□	D4C-1024-DK1EJ□	D4C-3024-DK1EJ□

Note 1. The □ contains the length of the cable.
For example: 30 cm → D4C-1001-AK1EJ03

2. M1 models are also available. Contact your OMRON sales representative for further information.

Weather-resistant Models

Actuator		5 A at 250 VAC 4 A at 30 VDC without operation indicator	0.1 A at 125 VAC 0.1 A at 30 VDC without operation indicator	5 A at 125 VAC with operation indicator	4 A at 30 VDC with operation indicator
Roller lever 	3 m	D4C-1220-P	D4C-4220-P	D4C-2220-P	D4C-3220-P
	5 m	D4C-1320-P	---	---	---
Roller lever (high-sensitivity model) 	3 m	D4C-1224-P	D4C-4224-P	D4C-2224-P	D4C-3224-P
	5 m	D4C-1324-P	D4C-4324-P	D4C-2324-P	D4C-3324-P
Variable roller lever 	3 m	D4C-1227-P	D4C-4227-P	D4C-2227-P	D4C-3227-P
	5 m	D4C-1327-P	D4C-4327-P	D4C-2327-P	D4C-3327-P
Variable rod lever 	3 m	D4C-1229-P	D4C-4229-P	---	D4C-3229-P
	5 m	D4C-1329-P	D4C-4329-P	D4C-2329-P	D4C-3329-P

Individual Parts (Head/Actuator)

Actuator type	Head (with actuator)	Actuator
Pin plunger	D4C-0001	-
Roller plunger	D4C-0002	-
Crossroller plunger	D4C-0003	-
Bevel plunger	D4C-0010	-
Roller lever	D4C-0020	WL-1A100
Environment-resistant roller lever	D4C-0020-P	WL-1A100P1
Roller lever	D4C-0024	WL-1A100
Variable roller lever	D4C-0027	HL-1HPA320
Variable rod lever	D4C-0029	HL-1HPA500
Sealed pin plunger	D4C-0031	-
Sealed roller plunger	D4C-0032	-
Sealed crossroller plunger	D4C-0033	-
Panel mount pin plunger	D4C-0041	-
Panel mount roller plunger	D4C-0042	-
Panel mount crossroller plunger	D4C-0043	-
Plastic rod	D4C-0050	-
Center roller lever	D4C-0060	-

Note 1: The model numbers for heads are of the form D4C-00□□, with the numbers in the squares indicating the type of actuator.

2. Actuators for plunger models, plastic rod models, and center roller lever models cannot be ordered individually. They must be ordered together with the head.

3. Consult your OMRON representative for details on cold-resistant specifications.

Mounting Plates

The WL model incorporated by equipment can be replaced with the D4C together with the Mounting Plate without changing the position of the dog or cam.

List of Replaceable Models

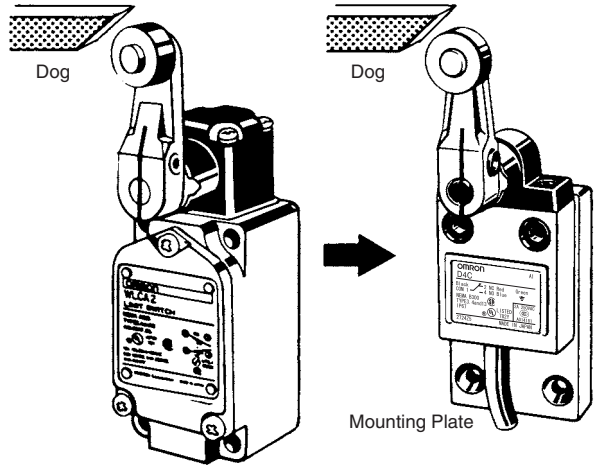
Contact your OMRON representative for the period required for delivery.

WL model (Actuator)	D4C model (Actuator)	Plate
WLD/WL01D (Top plunger)	→D4C-□□01 (Plunger)	D4C-P001
WLD2/WL01D2 (Top-roller plunger)	→D4C-□□02 (Roller plunger)	D4C-P002
WLCA2/WL01CA2 (Roller lever)	→D4C-□□20 (Roller lever)	D4C-P020

Note: The WL01□ is for micro loads.

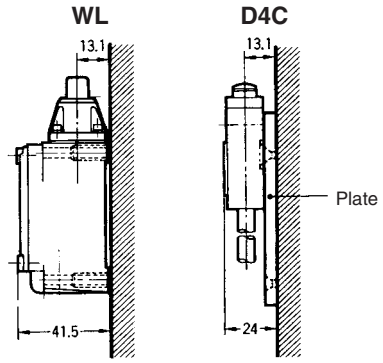
Application Example

Note: The position of the dog remains unchanged.



Remarks

There is no difference in mounting pitch between the Mounting Plate and the WL. The mounting depth of the D4C with the Mounting Plate attached is, however, shorter than that of the panel-mounted WL.



Specifications

■ Approved Standards

Agency	Standard	File No.
TÜV Rheinland	EN60947-5-1	R9451333 (see note 1) J9950970 (see note 2)
UL	UL508	E76675 (see note 3)
CSA	CSA C22.2 No. 14	LR45746 (see note 3)
CCC (CQC)	GB14048.5	2003010305077626 (see note 4)

Note 1: Models with VCTF oil-resistant cables only.
2. Pre-wired models only.
3. SJT(0)-cable models only.
4. Ask your OMRON representative for information on approved models.

■ Approved Standard Ratings

UL/CSA

B300 (D4C-16□□, -17□□), B150 (D4C-26□□, -27□□)

NEMA B300 (D4C-16□□, -17□□)

Rated voltage	Carry current	Current		Volt-amperes	
		Make	Break	Make	Break
120 VAC	5 A	30 A	3 A	3,600 VA	360 VA
240 VAC		15 A	1.5 A	3,600 VA	360 VA

NEMA B150 (D4C-26□□, -27□□)

Rated voltage	Carry current	Current		Volt-amperes	
		Make	Break	Make	Break
120 VAC	5 A	30 A	3 A	3,600 VA	360 VA

TÜV (EN60947-5-1), CCC (GB14048.5)

Model	Applicable category and ratings	I the
D4C-1□□□	AC-15 2 A/250 VAC	5 A
	DC-12 2 A/30 VDC	4 A
D4C-2□□□	AC-15 2 A/125 VAC	5 A
D4C-3□□□	DC-12 2 A/30 VDC	4 A
D4C-4□□□	AC-14 0.1 A/125 VAC	0.5 A
	DC-12 0.1 A/30 VDC	0.5 A
D4C-5□□□	AC-14 0.1 A/125 VAC	0.5 A
D4C-6□□□	DC-12 0.1 A/30 VDC	0.5 A

■ General Ratings

Model	Rated voltage	Non-inductive load				Inductive load				Inrush current	
		Resistive load		Lamp load		Inductive load		Motor load			
		NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
D4C-1□□□	125 VAC	5 A	5 A	1.5 A	0.7 A	3 A	3 A	2.5 A	1.3 A	20 A max.	10 A max.
	250 VAC	5 A	5 A	1 A	0.5 A	2 A	2 A	1.5 A	0.8 A		
	8 VDC	5 A	5 A	2 A	2 A	5 A	4 A	3 A	3 A		
	14 VDC	5 A	5 A	2 A	2 A	4 A	4 A	3 A	3 A		
	30 VDC	4 A	4 A	2 A	2 A	3 A	3 A	3 A	3 A		
	125 VDC	0.4 A	0.4 A	0.05 A	0.05 A	0.4 A	0.4 A	0.05 A	0.05 A		
	250 VDC	0.2 A	0.2 A	0.03 A	0.03 A	0.2 A	0.2 A	0.03 A	0.03 A		
D4C-2□□□	125 VAC	5 A	5 A	1.5 A	0.7 A	3 A	3 A	2.5 A	1.3 A		
	125 VDC	0.4 A	0.4 A	0.05 A	0.05 A	0.4 A	0.4 A	0.05 A	0.05 A		
D4C-3□□□	30 VDC	4 A	4 A	2 A	2 A	3 A	3 A	3 A	3 A		
D4C-4□□□	125 VAC	0.1 A	0.1 A	---		---					
	8 VDC	0.1 A	0.1 A								
	14 VDC	0.1 A	0.1 A								
	30 VDC	0.1 A	0.1 A								
D4C-5□□□	125 VAC	0.1 A	0.1 A	---		---					
D4C-6□□□	30 VDC	0.1 A	0.1 A	---		---					

Ratings for Pre-wired Models

Rated voltage	Non-inductive load				Inductive load				Inrush current	
	Resistive load		Lamp load		Inductive load		Motor load			
	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	1	1	1	0.7	1	1	1	1	20 A max.	10 A max.
30 VDC	1	1	1	1	1	1	1	1		

Note 1. Inductive loads have a power factor of 0.4 min. (AC) and a time constant of 7 ms max. (DC).

2. Lamp loads have an inrush current of 10 times the steady-state current.

3. Motor loads have an inrush current of 6 times the steady-state current.

■ Characteristics

Degree of protection	IP67
Durability (see note 2)	Mechanical: 10,000,000 operations min. Electrical: 200,000 operations min. (5A at 250 VAC, resistive load)
Operating speed	0.1 mm to 0.5 m/s (in case of plunger) 1 mm to 1 m/s (in case of roller lever)
Operating frequency	Mechanical: 120 operations/min Electrical: 30 operations/min
Rated frequency	50/60 Hz
Insulation resistance	100 MΩ min. (at 500 VDC)
Contact resistance (initial)	250 mΩ max. (initial value with 2-m VCTF cable) 300 mΩ max. (initial value with 3-m VCTF cable) 400 mΩ max. (initial value with 5-m VCTF cable)
Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between terminals of the same polarity 1,500 VAC, 50/60 Hz for 1 min between current-carrying metal part and ground, and between each terminal and non-current-carrying metal part, Uimp: 2.5 kV (EN60947-5-1)
Rated insulation voltage (U_i)	300 V (EN60947-5-1)
Switching overvoltage	1,000 VAC, 300 VDC max. (EN60947-5-1)
Pollution degree (operating environment)	3 (IEC60947-5-1)
Short-circuit protective device (SCPD)	10 A fuse type gI or gG (IEC269)
Conditional short-circuit current	100 A (EN60947-5-1)
Conventional enclosed thermal current (I_{the})	5 A, 4 A, 0.5 A (EN60947-5-1)
Protection against electric shock	Class I (with grounding wire)
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: Approx. 1,000 m/s^2 min. Malfunction: Approx. 500 m/s^2 min.
Ambient temperature (see note)	Operating: –10°C to 70°C (with no icing)
Ambient humidity	Operating: 95% max.
Weight	With 3-m VCTF cable: 360 g; With 5-m VCTF cable: 540 g

Note 1. The above figures are initial values.

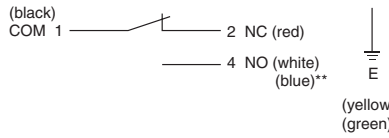
2. The values are calculated at an operating temperature of 5°C to 35°C, and an operating humidity of 40% to 70%. Contact your OMRON sales representative for more detailed information on other operating environments.

Connections

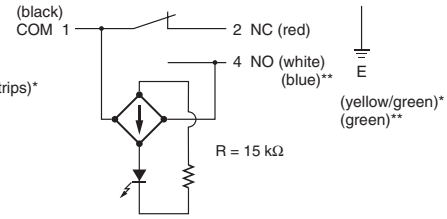
■ Contact Form

Standard Models/Weather-resistant Models

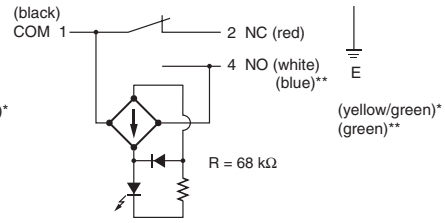
Without Operation Indicator



With 24 VDC LED Operation Indicator (Lit when Not Actuated)



With 100 VAC LED Operation Indicator (Lit when Not Actuated)



* Yellow/green: VCTF oil-resistant cable
Green: VCTF cable

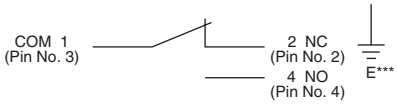
** SJT(O) cable approved by UL and CSA.

Note 1. "Lit when operated" means that when the actuator is turned or pushed and the Limit Switch contact leaves the NC side, the indicator lights.

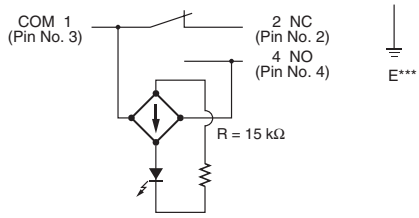
2. "Lit when not in operation" means that when the actuator is in the free position, the indicator is lit, and when the actuator is turned or pushed and the contact comes into contact with the NO side, the indicator turns OFF.

Pre-wired Models (-AK1EJ□, -DK1EJ□)

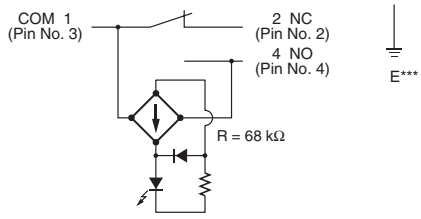
Without Operation Indicator



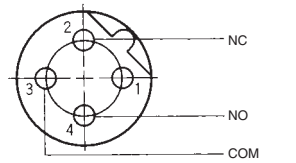
With 24 VDC LED Operation Indicator (Lit when Not Actuated)



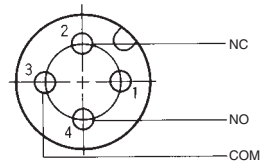
With 100 VAC LED Operation Indicator (Lit when Not Actuated)



For AC



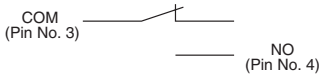
For DC



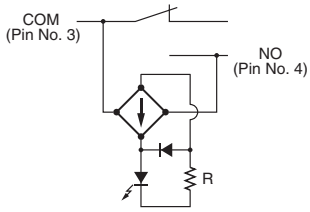
*** E (ground) is not grounded.

Connector Models for ASI Devices (-M1J)

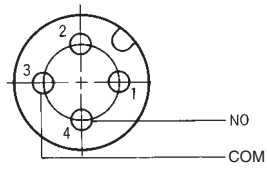
Without Operation Indicator



With Operation Indicator (Lit when Not Actuated)



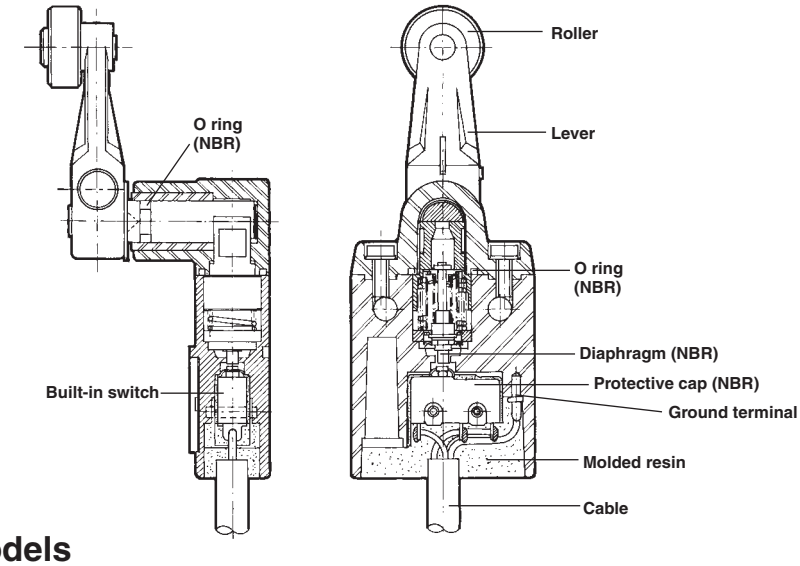
For DC



Nomenclature

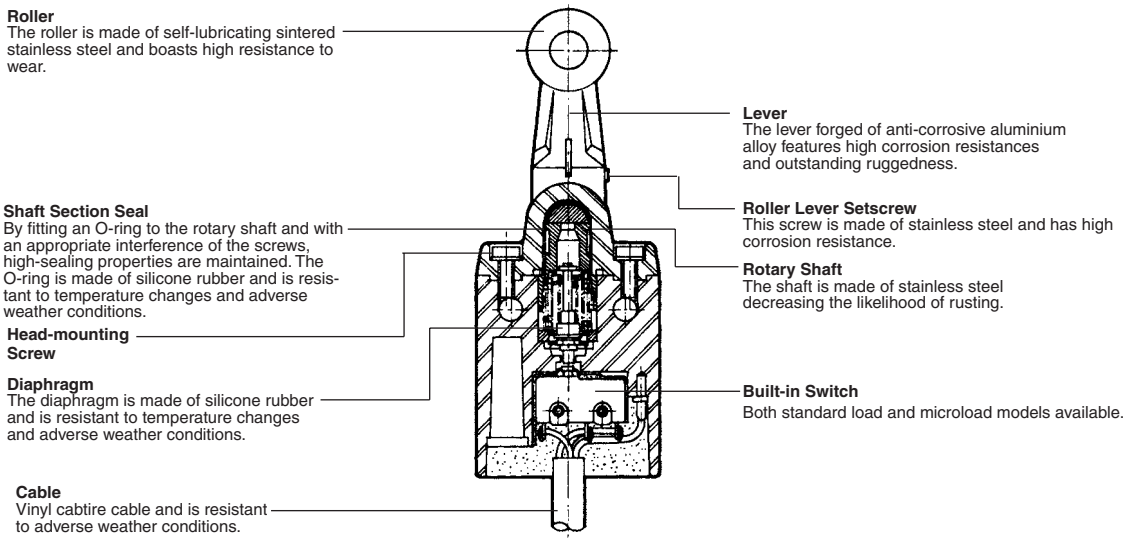
Standard Models

Roller Lever Models Without Indicator



Weather-resistant Models

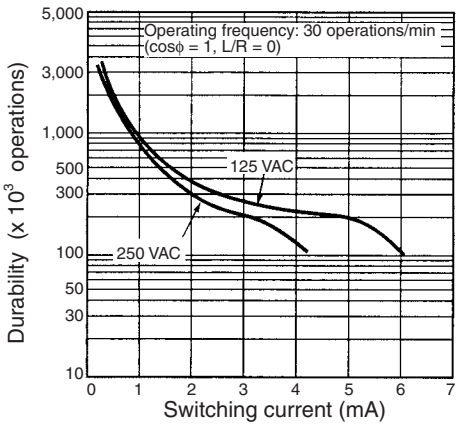
Roller Lever Models Without Indicator



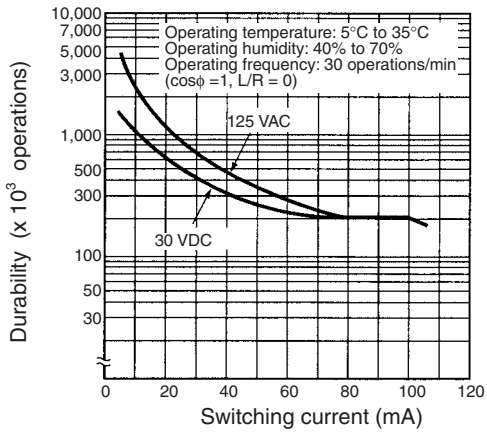
Engineering Data

■ Electrical Durability

D4C-1□□□, -2□□□, -3□□□



D4C-4□□□, -5□□□, -6□□□



■ Leakage Current for LED-indicator Models

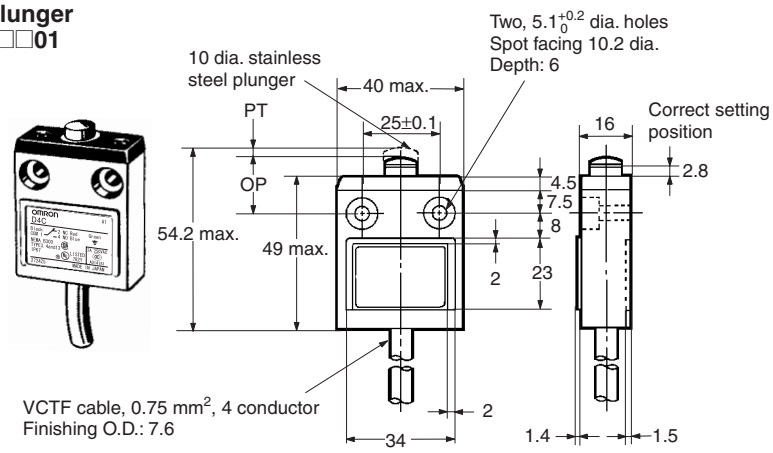
Model	Voltage	Leakage current	Resistance
D4C-2□□□	125 VAC	1.7 mA	68 kΩ
D4C-3□□□	30 VDC	1.7 mA	15 kΩ
D4C-5□□□	125 VAC	1.7 mA	68 kΩ
D4C-6□□□	30 VDC	1.7 mA	15 kΩ

Dimensions

Note 1. All units are in millimeters unless otherwise indicated.
2. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

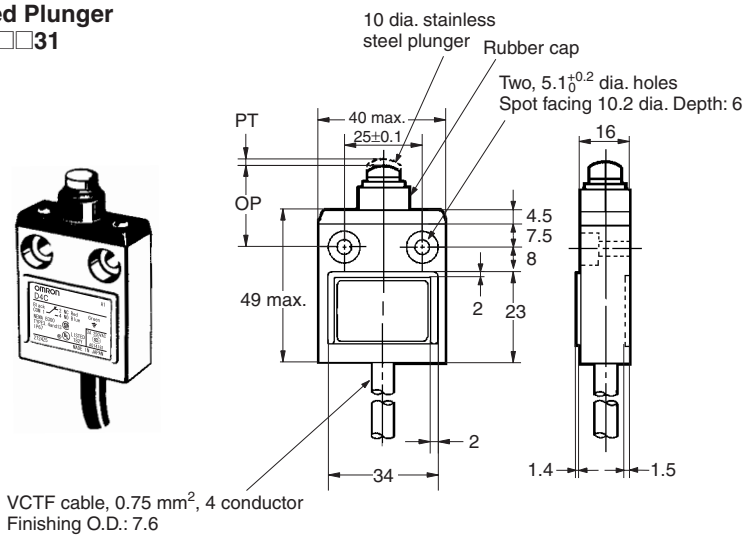
Standard Models

Pin Plunger
D4C-□□01



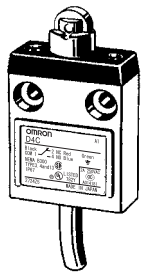
Model	D4C-□□01
OF max.	11.77 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	15.7±1 mm
TT	(5) mm

Sealed Plunger
D4C-□□31



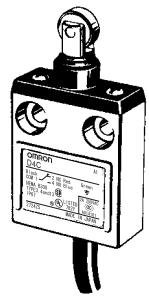
Model	D4C-□□31
OF max.	17.65 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	24.9±1 mm
TT	(5) mm

Roller Plunger
D4C-□□02



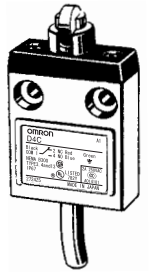
Model	D4C-□□02
OF max.	11.77 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	28.5±1 mm
TT	(5) mm

Sealed Roller Plunger
D4C-□□32



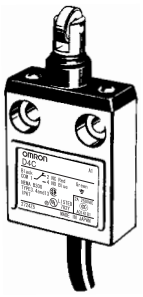
Model	D4C-□□32
OF max.	17.65 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	34.3±1 mm
TT	(5) mm

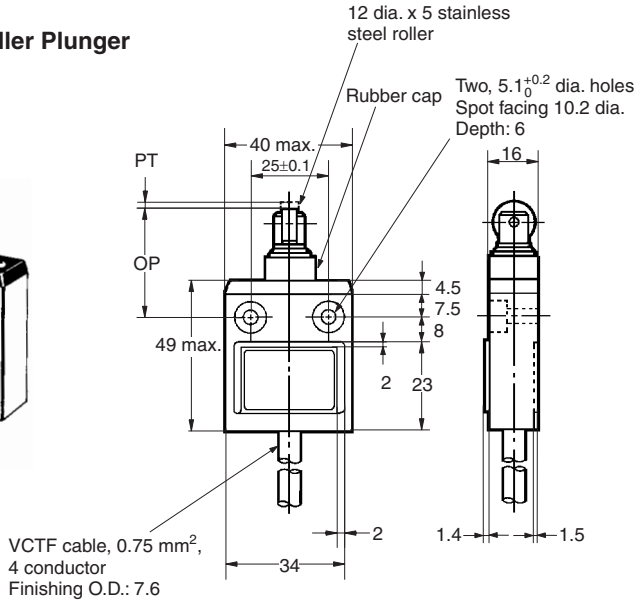
Crossroller Plunger
D4C-□□03



Model	D4C-□□03
OF max.	6.86 N
RF min.	2.45 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	28.5±1 mm
TT	(5) mm

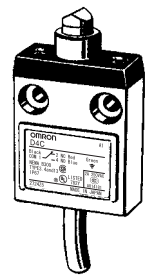
Sealed Crossroller Plunger
D4C-□□33





Model	D4C-□□33
OF max.	17.65 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	34.3±1 mm
TT	(5) mm

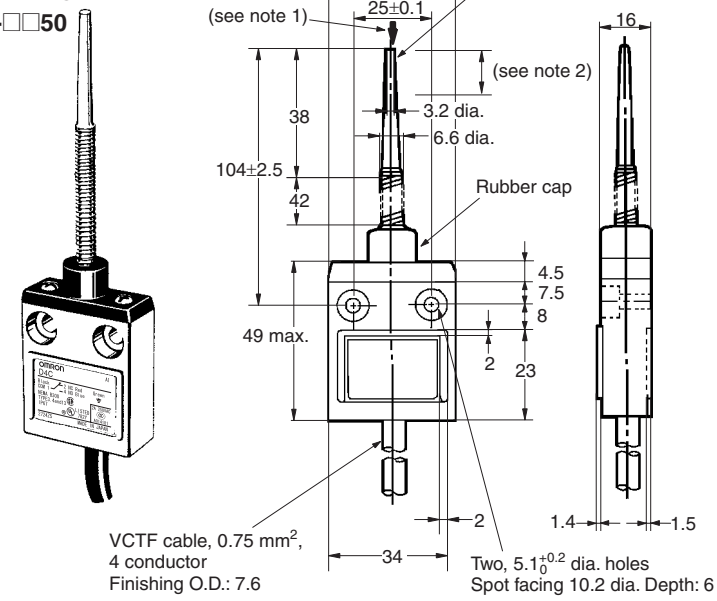
Bevel Plunger
D4C-□□10



Model	D4C-□□10
OF max.	11.77 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	28.5±1 mm
TT	(5) mm

Coil Spring

D4C-□□50



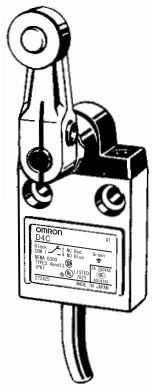
Model	D4C-□□50
OF max.	1.47 N
RF min.	---
PT max.	15°
OT min.	---
MD max.	---
OP	---
TT	---

Note 1: Operation is possible in any direction except in parallel to the axis.

2. The ideal range for operation is between the tip of the rod and 1/3 of the length of the actuator.

Roller Lever

D4C-□□20
D4C-□□20-P

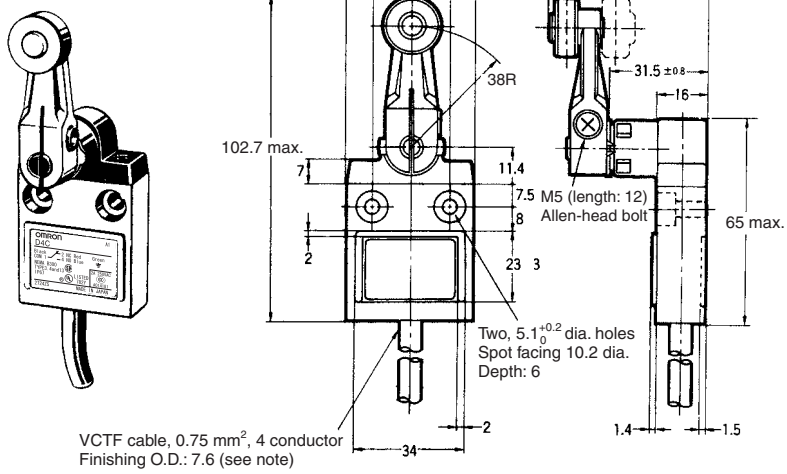


Note: S-FLEX VCTF Cables are used for weather-resistant models (D4C-P).

Model	D4C-□□20 D4C-□□20-P
OF max.	5.69 N
RF min.	1.47 N
PT max.	25°
OT min.	40°
MD max.	3°
OP	---
TT	(70°)

Roller Lever (High-Sensitivity Model)

D4C-□□24
D4C-□□24-P

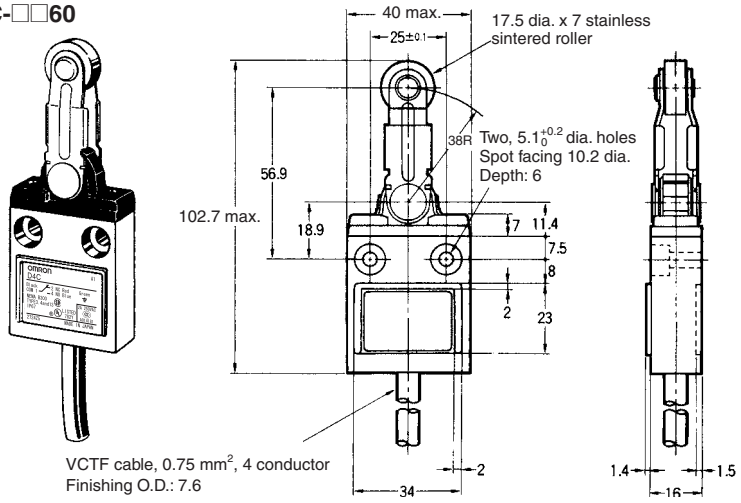


Note: S-FLEX VCTF Cables are used for weather-resistant models (D4C-P).

Model	D4C-□□24 D4C-□□24-P
OF max.	5.69 N
RF min.	1.47 N
PT max.	10±3°
OT min.	50°
MD max.	3°
OP	---
TT	(70°)

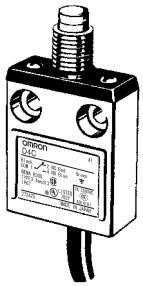
Center Roller Lever Plunger

D4C-□□60



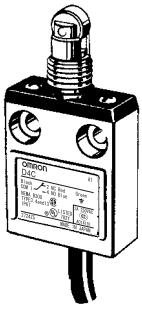
Model	D4C-□□60
OF max.	6.67 N
RF min.	1.47 N
PT max.	10±3°
OT min.	50°
MD max.	3°
OP	---
TT	---

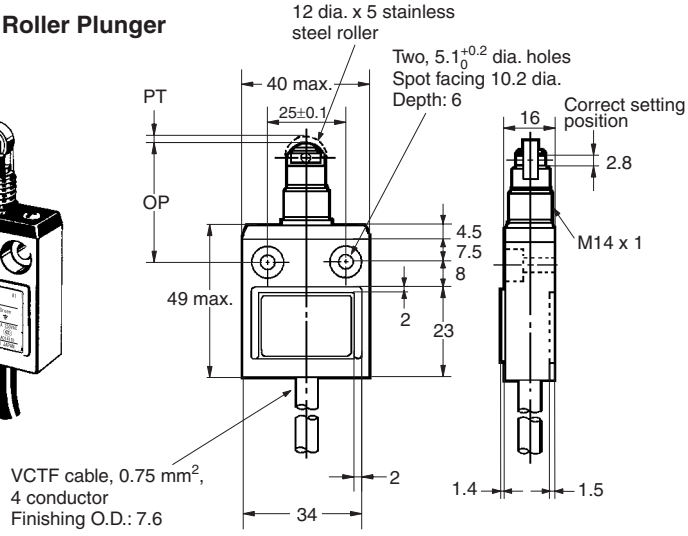
Panel Mount Pin Plunger
D4C-□□41



Model	D4C-□□41
OF max.	11.77 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	31.2±1 mm
TT	(5) mm

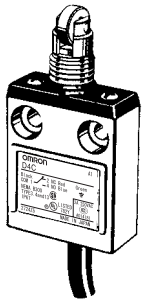
Panel Mount Roller Plunger
D4C-□□42

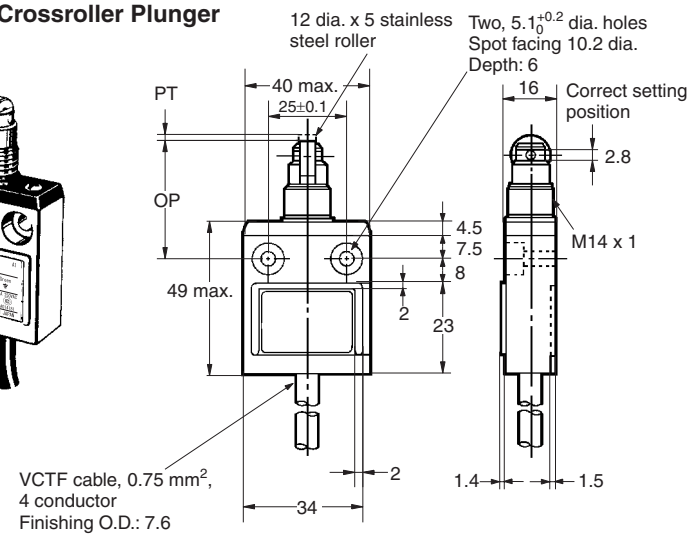




Model	D4C-□□42
OF max.	11.77 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	36.8±1 mm
TT	(5) mm

Panel Mount Crossroller Plunger
D4C-□□43





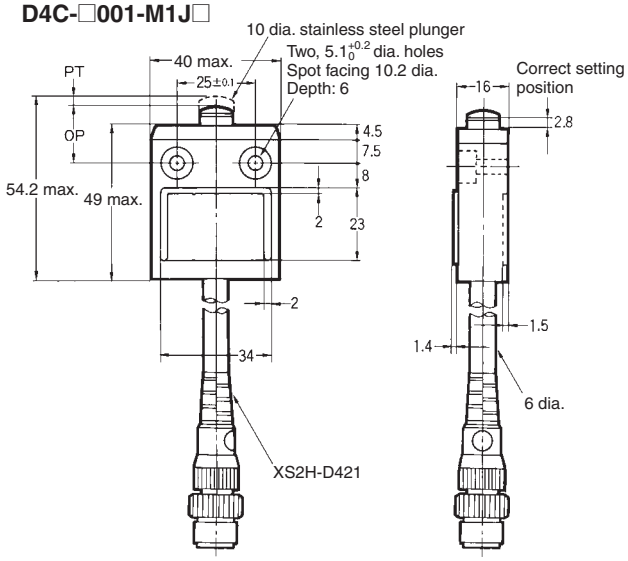
Model	D4C-□□43
OF max.	11.77 N
RF min.	4.41 N
PT max.	1.8 mm
OT min.	3 mm
MD max.	0.2 mm
OP	36.8±1 mm
TT	(5) mm

Note: Two nuts (thickness: 2.5; distance across: 17) are included with the D4C-□□41, D4C-□□42 and D4C-□□43.

Pre-wired Models

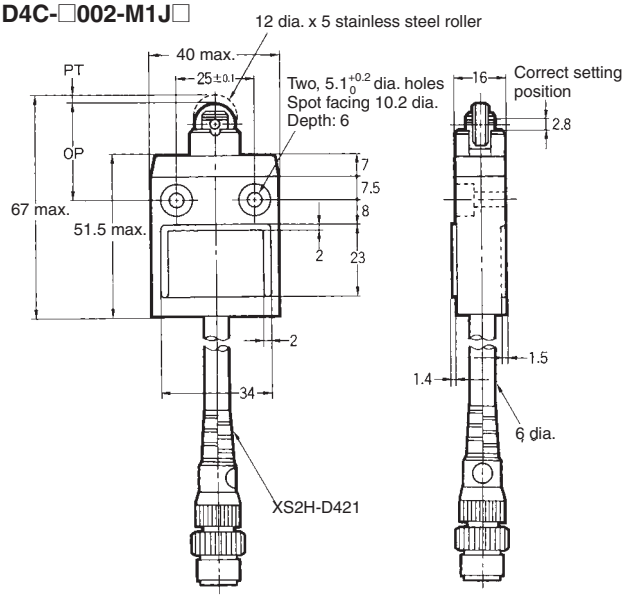
Pin Plunger

D4C-□001-□K1EJ□
D4C-□001-M1J□



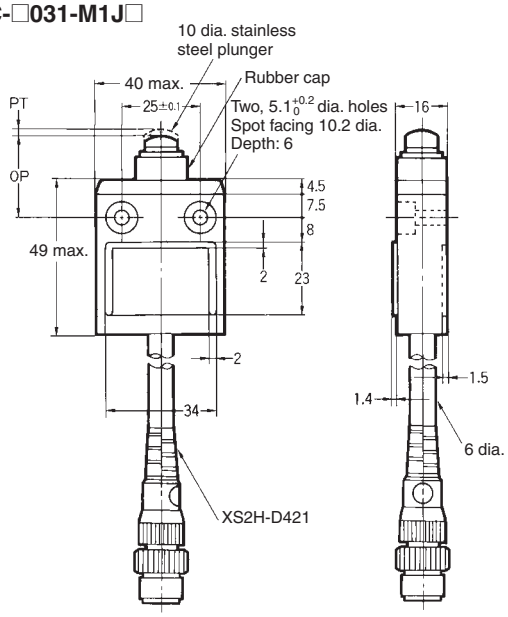
Roller Plunger

D4C-□002-□K1EJ□
D4C-□002-M1J□



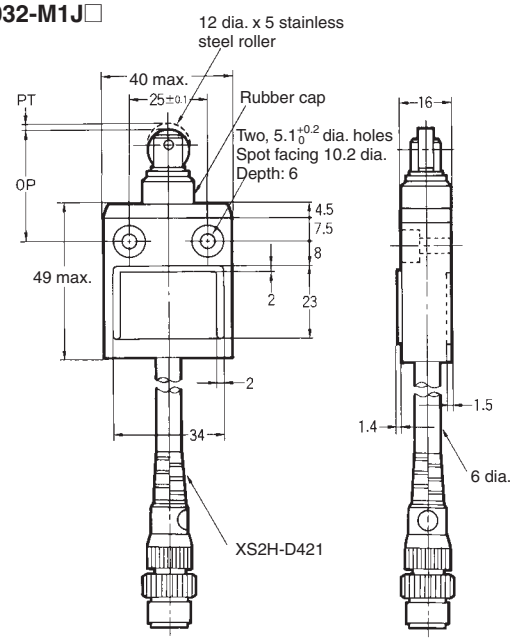
Sealed Pin Plunger

D4C-□031-□K1EJ□
D4C-□031-M1J□



Sealed Roller Plunger

D4C-□032-□K1EJ□
D4C-□032-M1J□

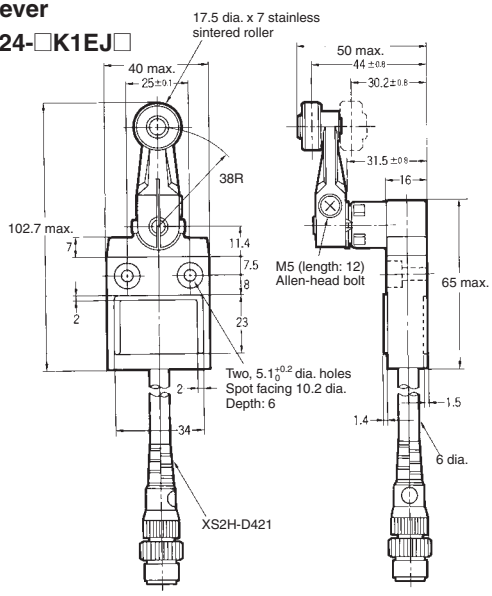


Model	D4C-□001-□K1EJ□	D4C-□002-□K1EJ□	D4C-□031-□K1EJ□	D4C-□032-□K1EJ□
OF max.	11.77 N	11.77 N	17.65 N	17.65 N
RF min.	4.41 N	4.41 N	4.41 N	4.41 N
PT max.	1.8 mm	1.8 mm	1.8 mm	1.8 mm
OT min.	3 mm	3 mm	3 mm	3 mm
MD max.	0.2 mm	0.2 mm	0.2 mm	0.2 mm
OP	15.7±1 mm	28.5±1 mm	24.9±1 mm	34.3±1 mm

Note: Specifications are the same for -M1J Switches.

Roller Lever

D4C-□024-□K1EJ□

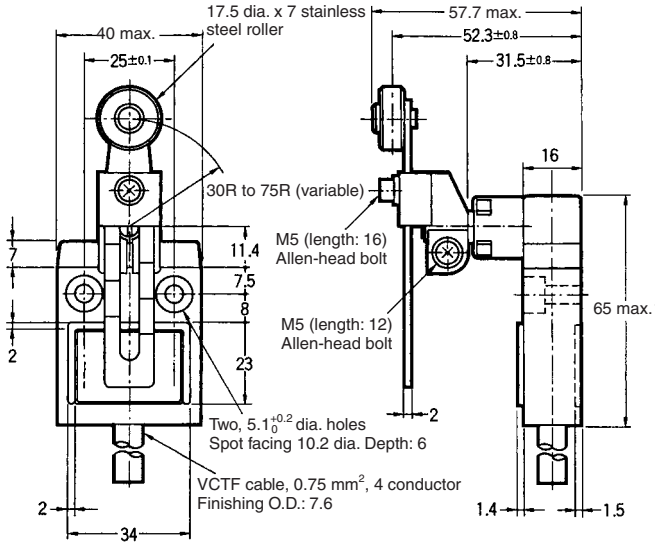


Model	D4C-□□24 -□K1EJ□
OF max.	5.69 N
RF min.	1.47 N
PT max.	10±3°
OT min.	50°
MD max.	3°
OP	---

Weather-resistant Models

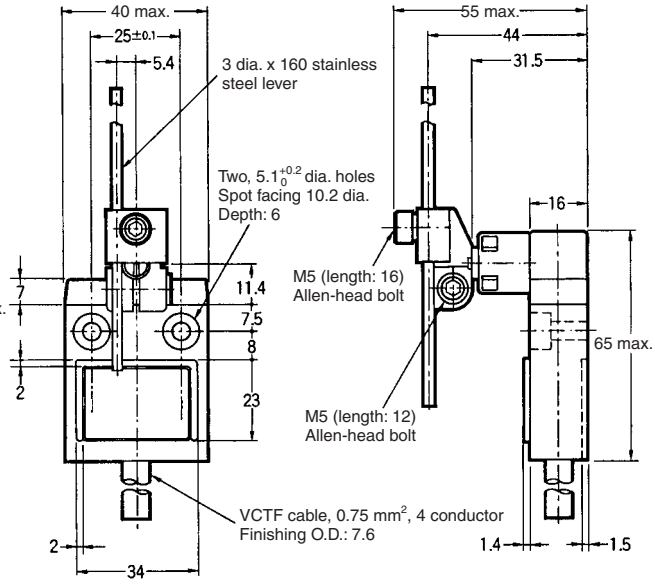
Adjustable Roller Lever

D4C-□□27-P



Adjustable Rod Lever

D4C-□□29-P

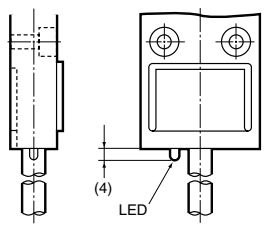


Model	D4C-□□27-P	D4C-□□29-P (see note)
OF max.	5.69 N	5.69 N
RF min.	1.47 N	1.47 N
PT max.	25°	25°
OT min.	40°	40°
MD max.	3°	3°

Note: Operation characteristics for the D4C-□□27-P and D4C-□□29-P are for a lever length of 38 mm.

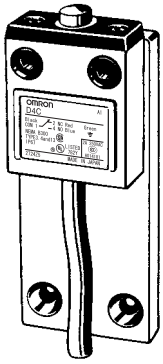
Models with LED Indicator

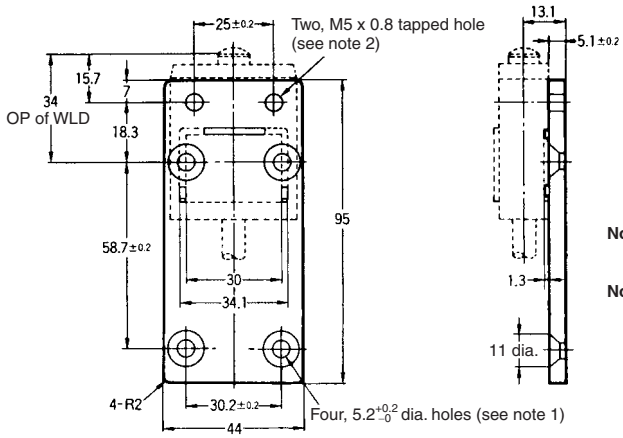
The dimensions of the LED indicator for models equipped with one are shown below.



Special Mounting Plates (Plates are not provided with Limit Switches.)

D4C-P001



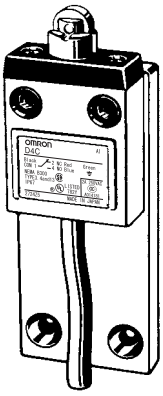


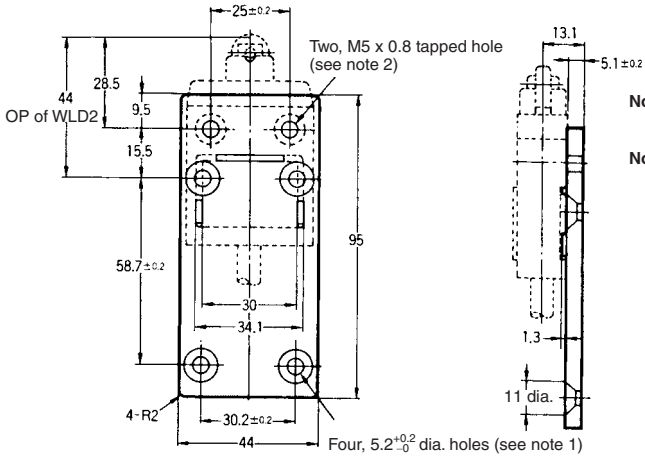
Note: Four, M5 x 0.8 hexagon pan-head bolts and two M5 x 0.8 Allen-head bolts are provided.

Note: **1.** Tighten the $5.2^{+0.2}_{0}$ dia. holes with the M5 x 10 hexagon pan-head screws.

2. Insert the M5 Allen-head bolts into the M5 tapping holes to tighten the Mounting Plate securely.

D4C-P002



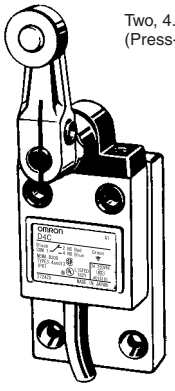


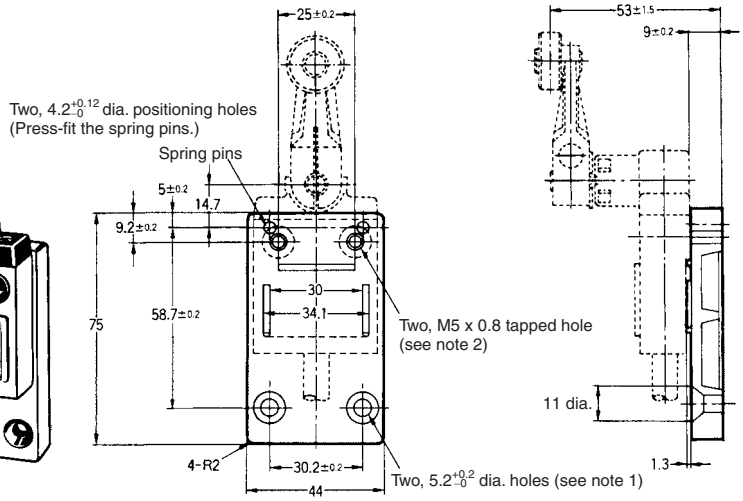
Note: Four, M5 x 0.8 hexagon pan-head bolts and two M5 x 0.8 Allen-head bolts are provided.

Note: **1.** Tighten the $5.2^{+0.2}_{0}$ dia. holes with the M5 x 10 hexagon pan-head screws.

2. Insert the M5 Allen-head bolts into the M5 tapping holes to tighten the Mounting Plate securely.

D4C-P020





Note: Four, M5 x 0.8 hexagon pan-head bolts and two M5 x 0.8 Allen-head bolts are provided.

Note: **1.** Tighten the $5.2^{+0.2}_{0}$ dia. holes with the M5 x 10 hexagon pan-head screws. Four, M5 x 0.8 hexagon pan-head bolts, two M5 x 0.8 Allen-head bolts are provided, and two 4 x 14 spring pins are provided.

2. Insert the M5 Allen-head bolts into the M5 tapping holes to tighten the Mounting Plate securely.

Note: Each dimension has a tolerance of ±0.4 mm unless otherwise specified.

Precautions

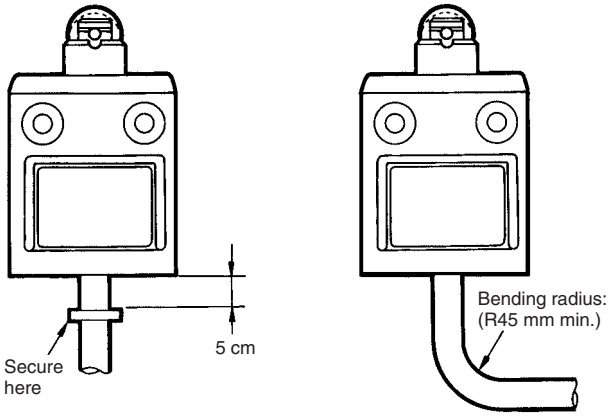
Refer to the *"Precautions for All Switches" on page 17* and *"Precautions for General-purpose Limit Switches (Including Multiple Limit Switches, Mechanical Touch Switches, High-precision Switches, Touch Switches, On-site Flexible Switches; Not Including Safety Switches)" on page 23.*

■ Correct Use

Handling

The bottom of the Switch at the cable outlet is resin-molded. Secure the cable at a point 5 cm from the Switch bottom to prevent exertion of excess force on the cable.

When bending the cable, provide a bending radius of 45 mm min. so as not to damage the cable insulation or sheath. Excessive bending may cause fire or leakage current.



Connections

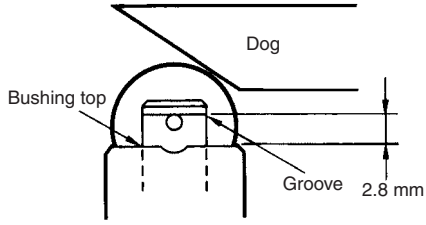
Be sure to connect a fuse with a breaking current 1.5 to 2 times larger than the rated current to the Limit Switch in series in order to protect the Limit Switch from damage due to short-circuiting.

When using the Limit Switch for the EN ratings, use the gI or gG 10-A fuse.

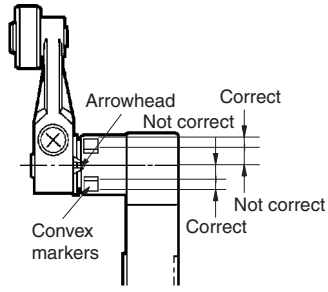
Operation

Operation method, shapes of cam and dog, operating frequency, and overtravel have a significant effect on the service life and precision of a Limit Switch. For this reason, the dog angle must be 30° max., the surface roughness of the dog must be 6.3S min. and hardness must be Hv400 to 500.

To allow the plunger-type actuator to travel properly, adjust the dog and cam to the proper setting positions. The proper position is where the plunger groove fits the bushing top.



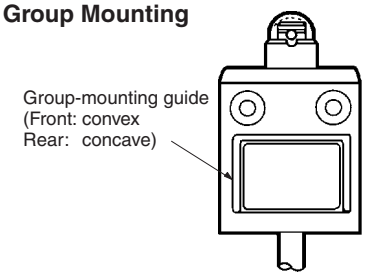
To allow the roller lever-type actuator to travel properly, adjust the dog and cam so that the arrow head is positioned between the two convex markers as shown below.

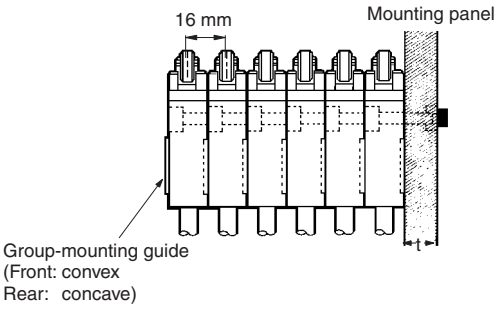


Mounting

A maximum of 6 Switches may be group-mounted. In this case, pay attention to the mounting direction so that the convex part of the group-mounting guide on one Switch fits into the concave part of the guide on the other Switch as shown in the figure below. For group mounting, the mounting panel must have a thickness (t) of 6 mm min.

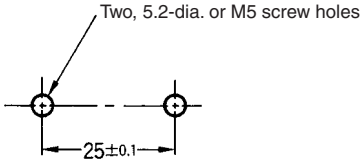
Group Mounting





If the mounting panel is warped or has protruding parts, a malfunction may result. Make sure that the mounting panel is not warped and has even surfaces.

Mounting Holes



Use a Switch with a rubber cap when using the plunger type in an environment where malfunction is possible due to environmental conditions such as dust or cutting chips which may not allow resetting.

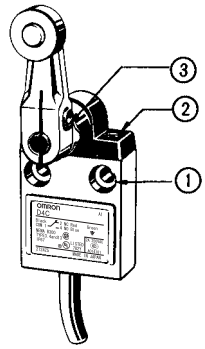
Do not expose the Switch to water exceeding 70°C or use it in steam.

When the D4C is used in a circuit of a device to be exported to Europe, classified as Overvoltage Class III as specified in IEC664, provide a contact protection circuit.

Tighten each screw to a torque according to the following table.

No.	Type	Torque
1	M5 Allen-head bolt	4.90 to 5.88 N·m
2	M3.5 head mounting screw	0.78 to 0.88 N·m
3	M5 Allen-head bolt	4.90 to 5.88 N·m

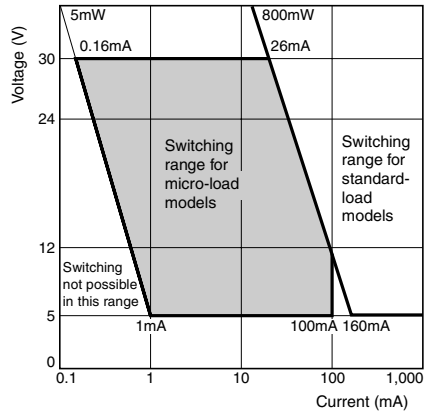
Note: By removing the two screws from the head, the head direction can be rotated 180°. After changing the head direction, re-tighten to the torque specified above. Be careful not to allow any foreign substance to enter the Switch.



Micro-load Models (D4C-4, -5, -6)

Switching Range

Micro-load models can be used for switching in the range shown below.



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. C032-E1-09